

### **ABSTRACT OF THE DISCLOSURE**

The invention provides a method useful for detection of genetic disorders. The method comprises determining the sequence of alleles of a locus of interest, and quantitating a ratio for the alleles at the locus of interest, wherein the ratio indicates the presence or absence of a chromosomal abnormality. The present invention also provides a non-invasive method for the detection of chromosomal abnormalities in a fetus. The invention is especially useful as a non-invasive method for determining the sequence of fetal DNA. The invention further provides methods of isolation of free DNA from a sample.